

Amendments to the Claims

1. (Currently amended) A method for the production of an increased level of very long chain fatty acid molecules in a plant seed cell, ~~said plant otherwise incapable of producing seed having more than 5% by weight of said very long chain fatty acid molecule~~, said method comprising the steps of:

growing a plant under conditions wherein said plant produces long chain fatty acyl-CoA molecules in ~~the~~ said plant seed cell,

in the presence of an expression product of a ~~very long chain fatty acid molecule altering~~ jojoba β-ketoacyl-CoA synthase DNA sequence operably linked to regulatory elements for directing the expression of said DNA sequence such as to effect the contact between such long chain fatty acyl-CoA molecules and said expression product,

and producing said very long chain fatty acid molecules in said plant seed cell at a level that is increased relative to the native level of said very long chain fatty acid molecules in said plant seed cell above 5% by weight.

2. (Currently Amended) The method of Claim 1 wherein said very long chain fatty acid molecules are produced in said plant seed cell to a level greater than 7% by weight.
3. (Original) The method of Claim 1 wherein said regulatory elements direct preferential expression of said DNA sequence in plant seed embryo cells.

11. (Original) The method of Claim 1 wherein said regulatory elements direct preferential expression of said DNA sequence in plant seed embryo cells.

12. (Currently Amended) A plant seed containing ~~a~~ very long chain fatty acid molecules produced in accordance with Claim 1.

13. (Original) A plant seed produced in accordance with Claim 1.

14 – 28 (Cancelled)

29. (Currently Amended) A method for altering the composition of fatty acids in a plant cell, said method comprising the steps of:

growing a plant under conditions wherein said plant produces long chain fatty acyl-CoA molecules,

in the presence of an expression product of a jojoba β -ketoacyl-CoA synthase DNA sequence operably linked to regulatory elements for directing the expression of said DNA sequence such as to effect the contact between such long chain fatty acyl-CoA molecules and said jojoba β -ketoacyl-CoA synthase, wherein

(i) said jojoba β -ketoacyl-CoA synthase is capable of catalyzing the production of very long chain fatty acids from a long chain fatty acyl-CoA substrate and malonyl-CoA,

(ii) said DNA sequence is heterologous to said plant, and

(iii) very long chain fatty acids are produced in said plant such as to alter the overall fatty acid composition of said plant cell.

30. (New) The method of Claim 1, wherein said very long chain fatty acid molecules are produced in said plant seed cell to a level greater than 5% by weight.
31. (New) The method of Claim 1, wherein said very long chain fatty acid molecules are 24:1 very long chain fatty acid molecules.
32. (New) The method of Claim 1, wherein said very long chain fatty acid molecules are 22:1 very long chain fatty acid molecules.
33. (New) The method of Claim 1, wherein said very long chain fatty acid molecules are 20:1 very long chain fatty acid molecules.